

Amendments to the Claims:

Please amend Claims 1 and 32 and add new claims 33-44. The Claim Listing below will replace all prior versions of the claims in the application.

Claim Listing:

1. (Currently Amended) A method for forming a densified composite foam, comprising the steps of:
 - a) immersing a reticulated foam skeleton in a liquid precursor; and
 - b) heating the immersed reticulated foam skeleton to pyrolyze the liquid precursor and cause a product of the pyrolyzed liquid precursor to deposit on the reticulated foam skeleton thereby forming the densified composite foam.
2. (Original) The method of Claim 1, wherein the reticulated foam skeleton includes carbon.
3. (Canceled)
4. (Original) The method of Claim 2, further comprising the step of pyrolyzing a polymeric foam to form the reticulated foam skeleton.
5. (Previously Presented) The method of Claim 4, wherein the polymeric foam includes a thermosetting polymer selected from the group consisting of polyurethanes, phenolics, and polyimides.
6. (Original) The method of Claim 4, further comprising the step of using chemical vapor deposition to deposit a coating on the reticulated foam skeleton before the reticulated foam skeleton is immersed in the liquid precursor.
7. (Original) The method of Claim 6, wherein the deposited coating includes carbon.

8. (Original) The method of Claim 4, further comprising the step of using chemical vapor deposition to deposit a coating on the densified composite foam after the liquid precursor is pyrolyzed and deposited on the reticulated foam skeleton.
9. (Original) A method for forming a carbon-carbon composite foam, comprising the steps of:
 - a) pyrolyzing a polymeric foam to form a reticulated carbon skeleton; and
 - b) depositing pyrolytic carbon on the reticulated carbon skeleton to form a carbon-carbon composite foam with greater than 30% solid density.
10. (Previously Presented) The method of Claim 9, wherein the polymeric foam includes a thermosetting polymer selected from the group consisting of polyurethanes, phenolics, and polyimides.
11. (Original) The method of Claim 9, wherein the carbon-carbon composite foam is densified to a solid density of at least about 40%.
12. (Original) The method of Claim 9, wherein the carbon-carbon composite foam is densified to a solid density of at least about 50%.
13. - 22. (Canceled)
23. (Previously Presented) The method of Claim 1, wherein the product of the pyrolyzed liquid precursor is any one of carbon, silicon carbide, and silicon nitride.
24. (Previously Presented) The method of Claim 1, wherein the liquid precursor is a dielectric.
25. (Previously Presented) The method of Claim 24, wherein the dielectric constant of the liquid precursor is at least 0.5.

26. (Previously Presented) The method of Claim 1, wherein the liquid precursor is any one of cyclohexane, n-hexane, benzene, methyltrichlorosilane, dimethyldichlorosilane, methyldichlorosilane, and tris-n-methyl amino silane.
27. (Previously Presented) The method of Claim 1, wherein heating the immersed reticulated foam skeleton comprises heating the immersed reticulated foam skeleton using an induction coil immersed in the liquid precursor.
28. (Previously Presented) The method of Claim 1, wherein the reticulated foam skeleton is carbon and the product of the pyrolyzed liquid precursor is carbon, the resulting carbon-carbon composite foam having greater than 30% solid density.
29. (Previously Presented) The method of Claim 28, wherein the carbon-carbon composite foam has a solid density of at least 40%.
30. (Previously Presented) The method of Claim 28, wherein the carbon-carbon composite foam has a solid density of at least 50%.
31. (Previously Presented) The method of Claim 28, wherein the carbon-carbon composite foam has an essentially isotropic structure.
32. (Currently Amended) A method for forming a densified composite foam, comprising the steps of:
 - a) pyrolyzing a polymeric foam to form a reticulated foam skeleton;
 - b) depositing a coating on the reticulated foam skeleton by chemical vapor deposition to form a coated reticulated foam skeleton;
 - b c) immersing the coated reticulated foam skeleton in a liquid precursor; and
 - c d) heating the immersed reticulated foam skeleton to pyrolyze the liquid precursor and cause a product of the pyrolyzed liquid precursor to deposit on the reticulated foam skeleton thereby forming the densified composite foam.

33. (New) The method of Claim 1, wherein pores in the foam being about 500 to about 1000 microns in diameter.
34. (New) The method of Claim 1, wherein micrographic porosity of about 60 to about 100 pores/inch.
35. (New) The method of Claim 1, wherein bulk density of about 0.04 g/cm^3 .
36. (New) The method of Claim 1, wherein surface area of about $1.6 \text{ m}^2/\text{g}$.
37. (New) The method of Claim 9, wherein pores in the foam being about 500 to about 1000 microns in diameter.
38. (New) The method of Claim 9, wherein micrographic porosity of about 60 to about 100 pores/inch.
39. (New) The method of Claim 9, wherein bulk density of about 0.04 g/cm^3 .
40. (New) The method of Claim 9, wherein surface area of about $1.6 \text{ m}^2/\text{g}$.
41. (New) The method of Claim 32, wherein pores in the foam being about 500 to about 1000 microns in diameter.
42. (New) The method of Claim 32, wherein micrographic porosity of about 60 to about 100 pores/inch.
43. (New) The method of Claim 32, wherein bulk density of about 0.04 g/cm^3 .
44. (New) The method of Claim 32, wherein surface area of about $1.6 \text{ m}^2/\text{g}$.